



## LAKE WHATCOM WATER & SEWER DISTRICT

1220 Lakeway Drive  
Bellingham, WA, 98229

(360) 734-9224  
Fax 738-8250

# MEMORANDUM

To: Board of Commissioners Date: April 1, 2022

From: Justin Clary, General Manager

RE: Eagleridge Booster Conversion Project  
District Project No. C2011

---

The Lake Whatcom Water and Sewer District's (District) planned Eagleridge Booster Conversion Project (District Project No. C2011) has generated significant dialogue with customers of the Eagleridge water system. Under the planned project, the three existing domestic pumps that supplement pressures from the City of Bellingham's (City) water system would be removed from service based upon the pumping system approaching the end of its useful life, and that existing pressures within the City's water system are sufficient to meet statutory requirements ([Washington Administrative Code 246-290-230](#)) and District policy. Please refer to the District's memorandum dated February 2, 2022, for additional background on the project.

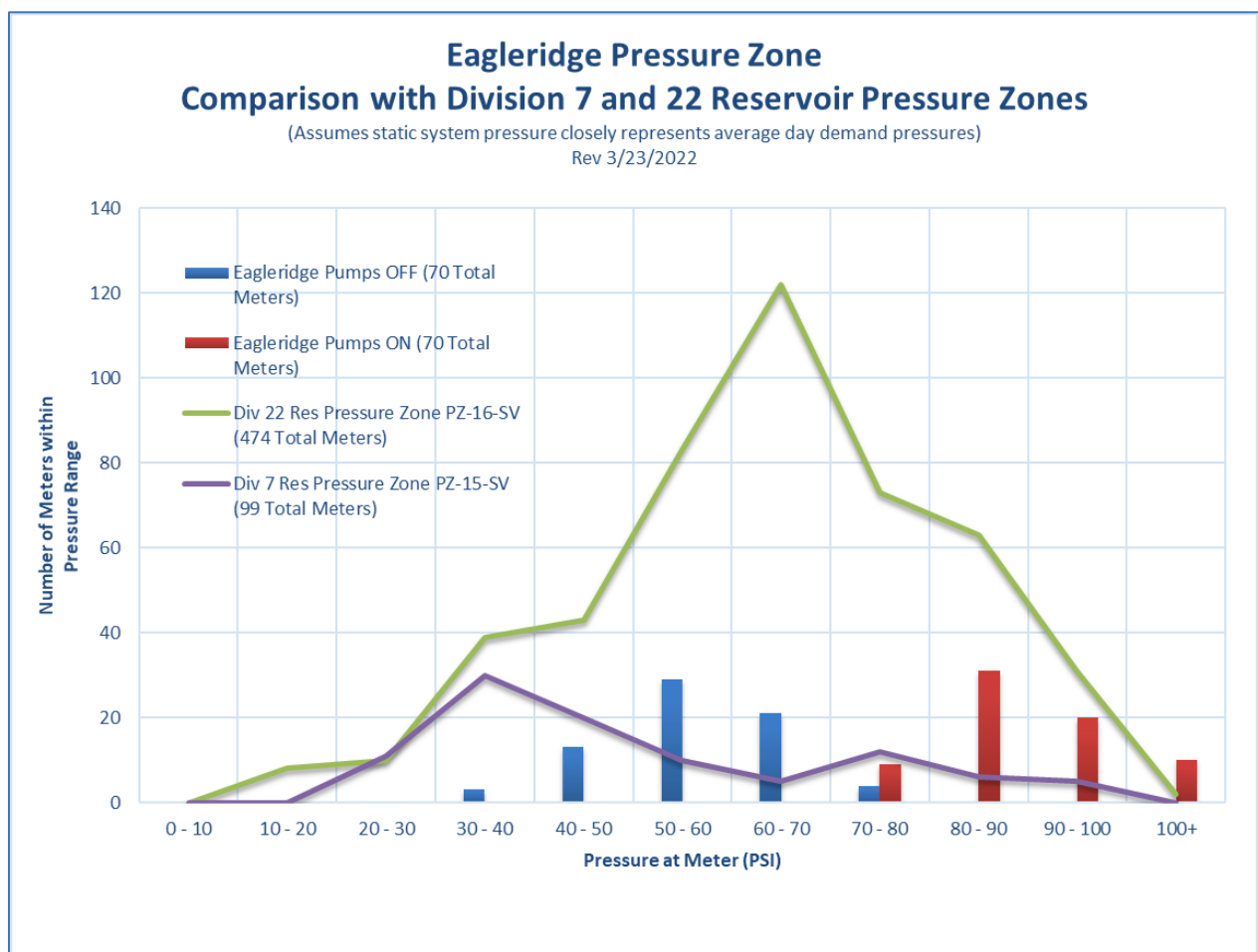
It has been correctly noted that implementation of the project would result in a drop in pressure in the District's public Eagleridge water system. However, as District staff and consultants have previously indicated, the water system pressures would remain in compliance with statutory requirements and District policy (minimum of 30 pounds per square inch [psi] pressure). The attached figure, which has been presented during prior Board discussion, presents a pressure contour map of the Eagleridge water system without the domestic pumps in operation. During prior discussion with the Board, District staff has indicated that the water system pressures without the pumps would be similar to pressures provided to customers served by other District water systems. Based on this, the Board requested similar pressure contour maps be generated for other District water systems. The purpose of this memorandum is to present pressure contour maps representing current conditions of other District water systems for comparison to the anticipated pressures in the Eagleridge water system without the domestic pumps.

### Water System Pressure Comparison

Due to the complexity of the District's South Shore water system (serving the Geneva and Sudden Valley communities) created by varying topography, District staff limited the analysis to two pressure zones. Both pressure zones are located in Sudden Valley, one served by the Division 7 water reservoir (PZ-15-SV) and the other served by the Division 22 water reservoirs (PZ-16-SV). For comparison to the 70-homes served by the Eagleridge water system, Pressure Zone PZ-15-

SV serves 99 homes and Pressure Zone PZ-16-SV serves 474 homes. Attached are figures showing the pressure contours present within those zones.

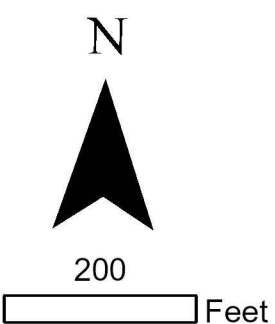
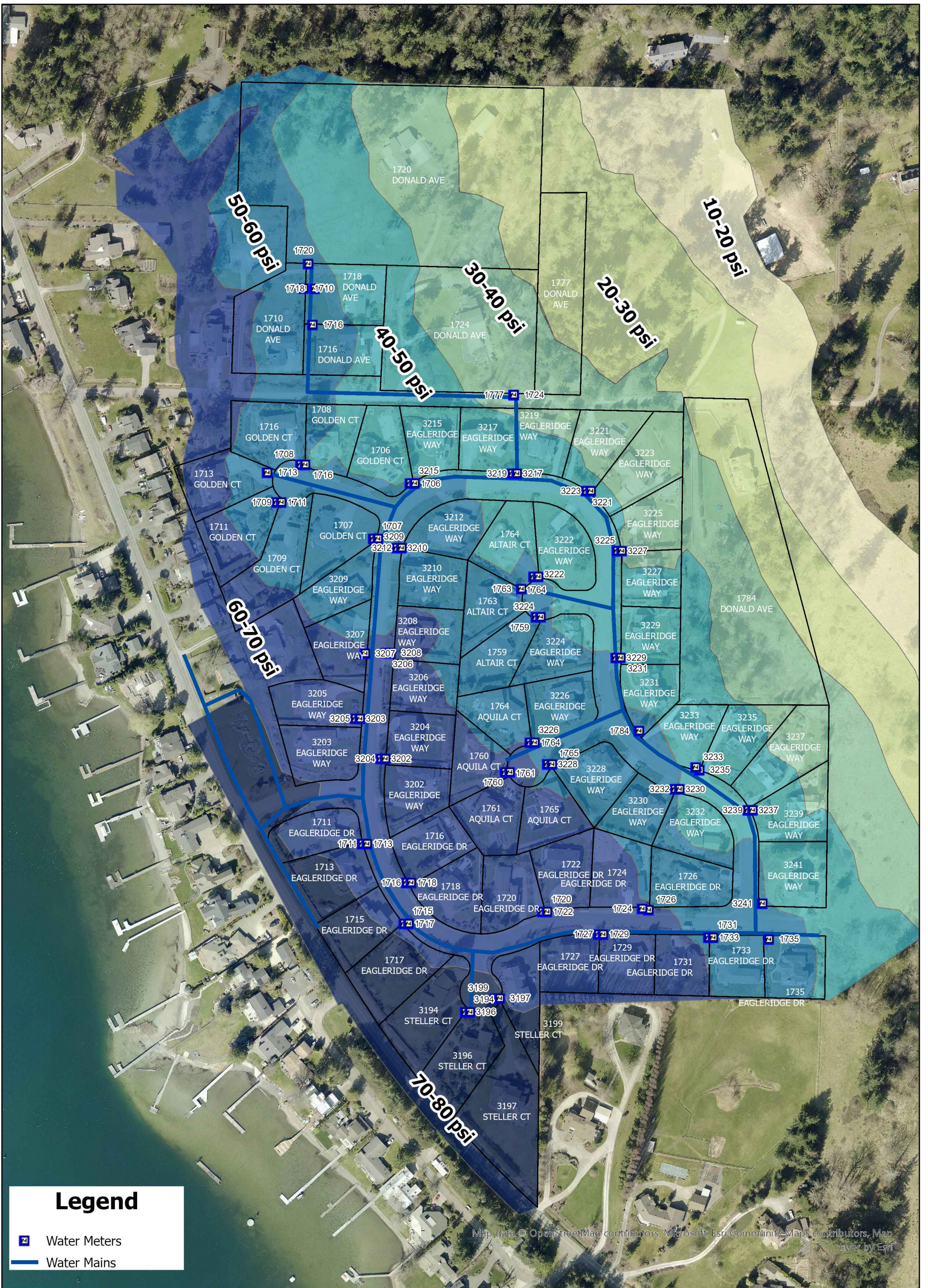
The following chart compares water pressures at each water meter within the two South Shore water system pressure zones and the Eagleridge water system. For ease of analysis, the bars within the chart show the number of Eagleridge water system connections within each 10-psi contour (both for with the booster pumps [red bars] and without the booster pumps [blue bars]), and the lines present the number of connections within each 10-psi contour for each South Shore water system pressure zone.



### Conclusions

Current pressures within the Eagleridge water system (i.e., with the booster pumps supplementing the pressure provided by the City’s water system at the intertie) are on the upper end of pressures provided in the two selected South Shore water system pressure zones. Implementation of the proposed project will result in water system pressures that align with existing pressures in the

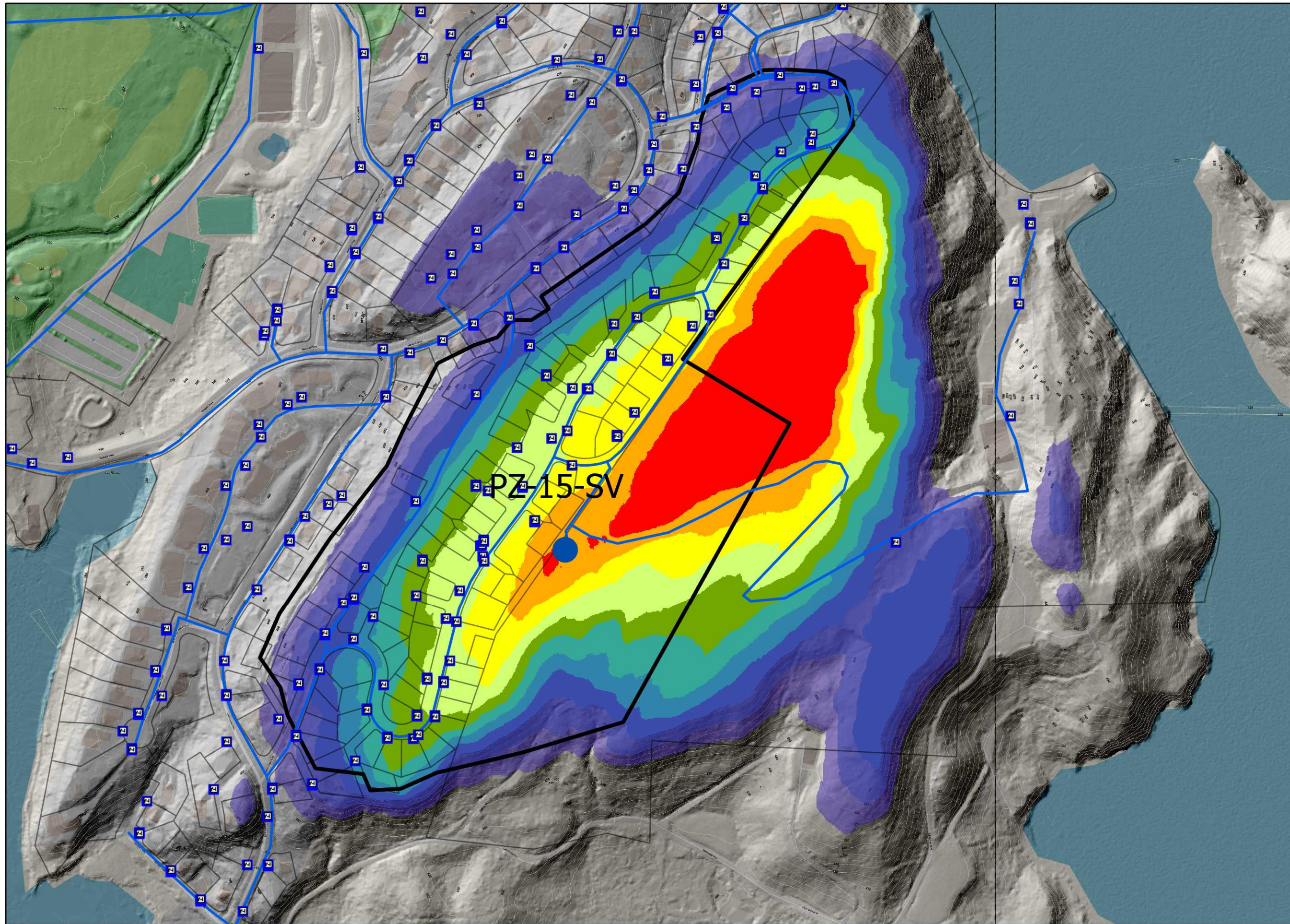
selected two South Shore water system pressure zones. The much broader varying topography of the South Shore system pressure zones results in a wider range of system pressures within each zone (there are connections in the pressure contours both exceeding and below those anticipated for all Eagleridge system connections without the booster pumps).



# Eagleridge Water System

**Calculated Water Pressure  
for Average Day Demand  
after Removal of Domestic Booster Pumps**

District Project #C2011  
Map prepared by Lake Whatcom Water and Sewer District  
2/16/2022



300 Feet

**Legend**

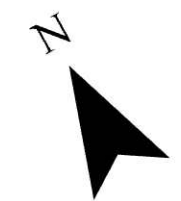
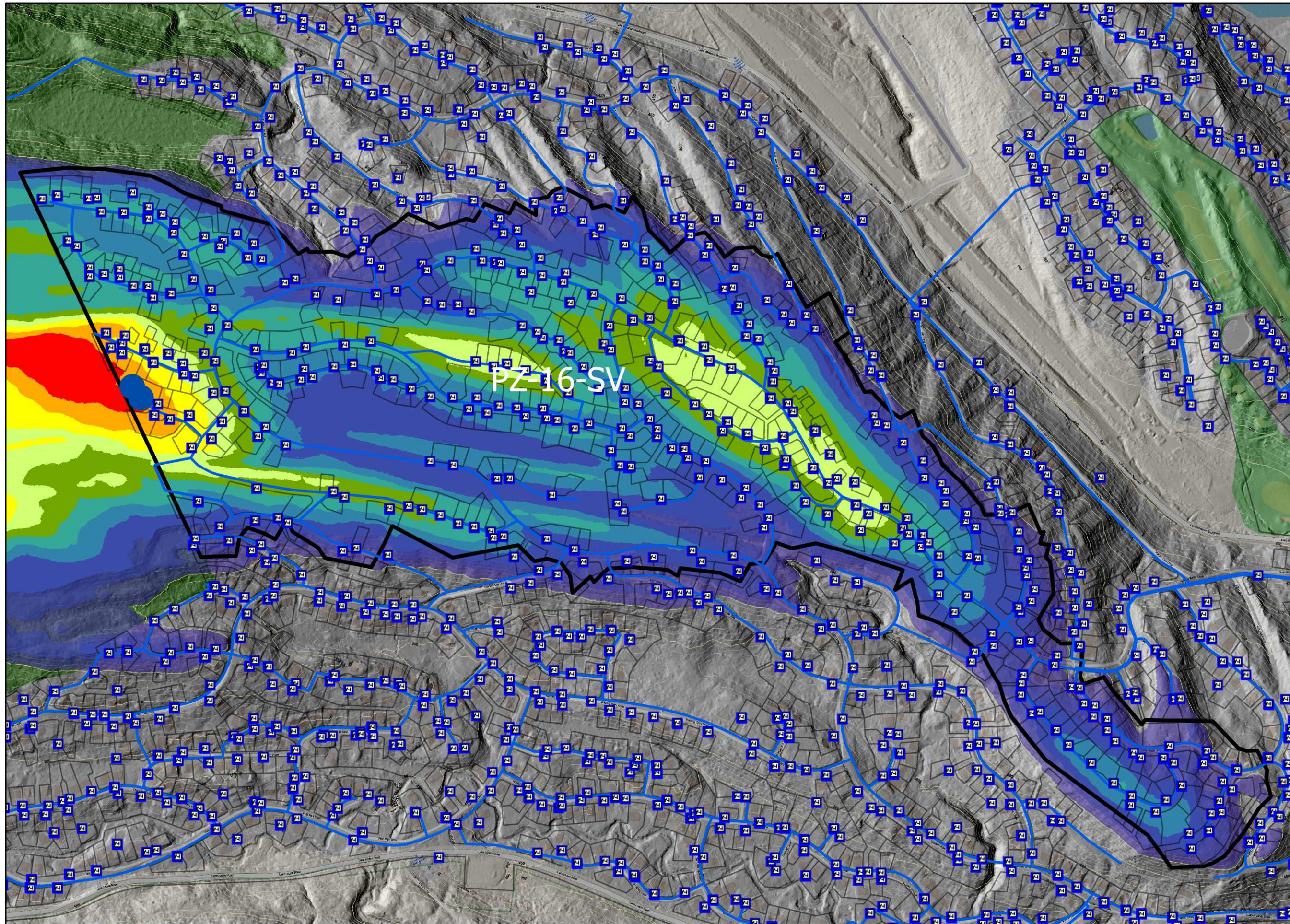
PZ-15-SV Pressure (PSI)  
Value

- 100 - 90 PSI
- 90 - 80 PSI
- 80 - 70 PSI
- 70 - 60 PSI
- 60 - 50 PSI
- 50 - 40 PSI
- 40 - 30 PSI
- 30 - 20 PSI
- 20 - 10 PSI
- 10 - 0 PSI
- Mains
- Tanks
- Meters
- Pressure-PZ-15-SV

Division 7 Reservoir  
Pressure Zone PZ-15-SV

Calculated Static  
Water Pressure

Map prepared by  
Lake Whatcom Water and Sewer District  
3/24/2022



500  
Feet

**Legend**

PZ-16-SV  
Pressures (PSI)  
Value

- 100 - 90 PSI
- 90 - 80 PSI
- 80 - 70 PSI
- 70 - 60 PSI
- 60 - 50 PSI
- 50 - 40 PSI
- 40 - 30 PSI
- 30 - 20 PSI
- 20 - 10 PSI
- 10 - 0 PSI
- Mains
- Tanks
- Meters
- Pressure Zone PZ-16-SV

Division 22 Reservoir  
Pressure Zone PZ-16-SV

Calculated Static  
Water Pressure

Map prepared by  
Lake Whatcom Water and Sewer District  
3/24/2022